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Integrated enterprise management system for higher education institutions based on strategic and process management: the case study of Sakarya University

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Abstract

Today, the higher education institutions should consider multiple concepts to manage in an integrated manner such as strategy, quality, process etc. to confront the challenges. Especially, strategic and process management in the higher education have recently been considered in many universities over the world. Strategic management serves as a mechanism to provide long-term direction of the higher education institutions and at the same time to allocation of resources in line with this direction. Furthermore, the process management provides the necessary mechanisms to achieve the vision of the higher education institutions and disseminate the approaches through the whole enterprise. The main purpose of this study is to develop the model which integrates the strategic management and process management to administrate the higher education institutions. Also, the institutional management system which is designed as the information support system to manage the higher education institutions is presented with the case study of Sakarya University.

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1. INTRODUCTION

The higher education institutions (HEI) should contribute to the development and support of economic, social and cultural progress for countries in everywhere, as they are among the oldest institutions in the world. The HEIs have to respond to the demands of changing and evolving conditions of society, and have to develop the internal structures in order to accomplish their visions. These conditions cause the challenges for the HEIs which

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include the Bologna Declaration and the European Higher Education Area, a mixed profile in the student population, the emergence of new competitors, the global knowledge economy, a technology-driven society, the new horizons in education, increasing external demands, accountability and transparency. Addressing these changes and challenges has meant finding ways to align organizational capacities with environmental demands and opportunities, as well as a big responsibility for governance and management at the institutional level (Taylor&Machado, 2006). The strategic management approach can help to prepare HEIs to face these emerging challenges.

Strategic management is a tool to forecast the future and place the institution in the best possible position for future success (Van Niekerk et.al, 2006). Furthermore, it allows the institution to analyze the present conditions and to take personnel, students and other stakeholders into account in order to create and sustain competitive advantages. By implementing the strategic management, the HEIs focus on strategic and operational goals, objectives and strategies based on organisational policies, programs and actions designed to achieve the institution's aims and desired results. The success of the institutions is derived from the correctly implementation of strategic plans. Therefore the strategic management becomes an extremely important tools for organizational effectiveness.

On the other hand, the desired new outcomes of strategic management cannot be reached without renewed actions. The institutions need to determine and monitor the short-term action plans at the operational level in order to implement the strategic plan successfully. The process management is the most effective way to implement the necessary tools and to disseminate developed approaches to accomplish the strategic targets in the enterprise. Business process management has taken hold in private companies, but recently process management has reached higher education institutions (Kettunen, 2012). Also, the integration of information systems to quality assurance is another main driver to describe processes in higher education (Kettunen&Kantola, 2005).

As a result, the strategic and process management approaches provide necessary managerial tools for the HEIs to manage the institution effectively and efficiently. However the implementation of both two approaches together emergence the other challenge of the HEIs. So the main purpose of this study is to integrate these two approaches as a management model for the HEIs. The integrated enterprise management model and the information support system are presented by the case study of Sakarya University. The strategic management is explained in the first section and the process management is presented in the second section of the paper. After that, the integrated university management model is presented as the proposed model with the Sakarya University case study. Finally, the results of the study are discussed and summarized in the conclusion.

1.1. Strategic management for the HEIs

Strategic management is concerned with the character and direction of the enterprise as a whole. It is concerned with basic decisions about what the enterprise is now, and what it is to be in the future. It determines the purpose of the enterprise. It determines what the enterprise should be capable of achieving, and what it will not choose to do. It will determine whether and how the organization will add value, and what form that added value should take. It is also concerned with management planning and decision-making for the medium to long-term future. It is concerned with the anticipation of that future, and while the establishment of a vision or view of how the enterprise should develop into the future that it must face (Morden,2007) Strategic management is a holistic process with many components that must effectively interact and execute together (Taylor&Machado, 2006).

Since the good management makes a difference to the quality schools and colleges and the educational outcomes of their students, strategic management is getting important for the higher education institutions. The main benefits of the strategic management for the HEIs can be summarized such as (Lerner, 1999):

- Creates a framework for determining the direction a university should take to achieve its desired future,
- Provides a framework for achieving competitive advantage,
- Allows all university constituencies to participate and work together towards accomplishing goals,
- “Raises the vision of all key participants, encouraging them to reflect creatively on the strategic direction” of the university,
- Allows the dialogue between the participants improving understanding of the organization’s vision, and fostering a sense of ownership of the strategic plan, and belonging to the organization,
- Aims to align the university with its environment,
- Allows the university to set priorities.

Generally, the strategic management process is accepted as consists of three phases such as strategy formulation, implementation and control. In the other perspective, the strategic management is regarded as a two-step process consisting of strategy formulation and strategy implementation. However, the strategic management process consists of assessing environmental opportunities and threats, determining organisational direction, strategy formulation, strategy implementation and strategic control. These three steps of the strategic management process is also named as environment analysis, strategy formulation and strategy implementation (Van Niekerk et.al, 2006). It has become generally accepted over the years by both academics and practitioners that a vital starting point for these strategic considerations is the formulation of a mission statement, a vision for the future. After that, the self-assessment and external analysis are executed. The strategies involves consideration of this analysis are determined and implemented.

Strategic management has been implemented by the HEIs for the different purposes (Penbek et al.,2011; Letturen,2012; Taylor&Machado,2006) by using several framework and techniques (Kaplan&Norton, 1992; 1993,1996; Cullen et.al.,2003; Shawyun, 2005; Asan and Tanyaş,2007).

1.2. Process management in the HEIs

Processes are generally defined as "a set of interdependent tasks transforming input elements into products". A process generally comprises the following elements: a purpose; the responsibilities of the participants in the process and their duties; the entrance criteria for the elements or conditions needed to begin the process; the inputs (artifacts, information or material) needed to perform the process; the activities, tasks or actions which make up the process; the outputs (artifacts or assets) that result from produced or modified by the process; the exit criteria (elements or conditions) needed for process completion; the process measures that support the process performances or future performances; tools, techniques and knowledge used in enactment the process; the adaptation patterns for tailoring the process in several contexts; the interfaces with others processes; and, records of information to future use (Llamosa-Villalba&Mendez,2010). A process comprises the network or a series of value-added activities performed by the collaborator to accomplish the assignment.

Process management is an approach that has been becoming more popular recently and gets increasingly implemented in more and more companies. Process management can be understood from two perspectives. One is the process management as a managerial discipline. The second aspect understands the process management as a technology that supports process-oriented management. Process approach allows organizations to eliminate the biggest disadvantage of the traditional functional approach that cannot be considered as an approach appropriately flexible for changes in the corporate environment, variety of procedures, or excessive substitution of workers. Processes are always understood in relation to the customer. Only if the management processes are

effective, then the companies can effectively manage, modify, improve efficiency, improve performance, identify and resist market risks (Tuček&Basl,2011).

Process management has taken hold in private companies, but recently process management has reached the higher education institutions (Kettunen,2012). For example, El-Sharef and El-Kilany (2011) used the business process modeling and analysis to identify the process needed for a Quality Management System in the HEIs. Tucek and Basl (2011) presented the business process management for process analyses of the HEIs.

2. INTEGRATED ENTERPRISE MANAGEMENT SYSTEM FOR THE HEIs

The HEIs are responsible to implement the education policy, their own strategic objectives and quality assurance. Therefore, they have to implement the several management approaches together such as strategic management, process management, total quality management, quality assurance etc. On the other hand, the implementations of these approaches cause the great challenge for the HEIs. It's obvious that there is a need to a framework for the integration of these approaches, especially a strategic management and a process management to augment their benefits.

So, the main goal of this study is to develop this framework for the management of HEIs to realize the strategies, improve the processes and ensure the quality assurance as an integrated model. The proposed model is based on both the strategic management and the process management, as shown in Figure 1.

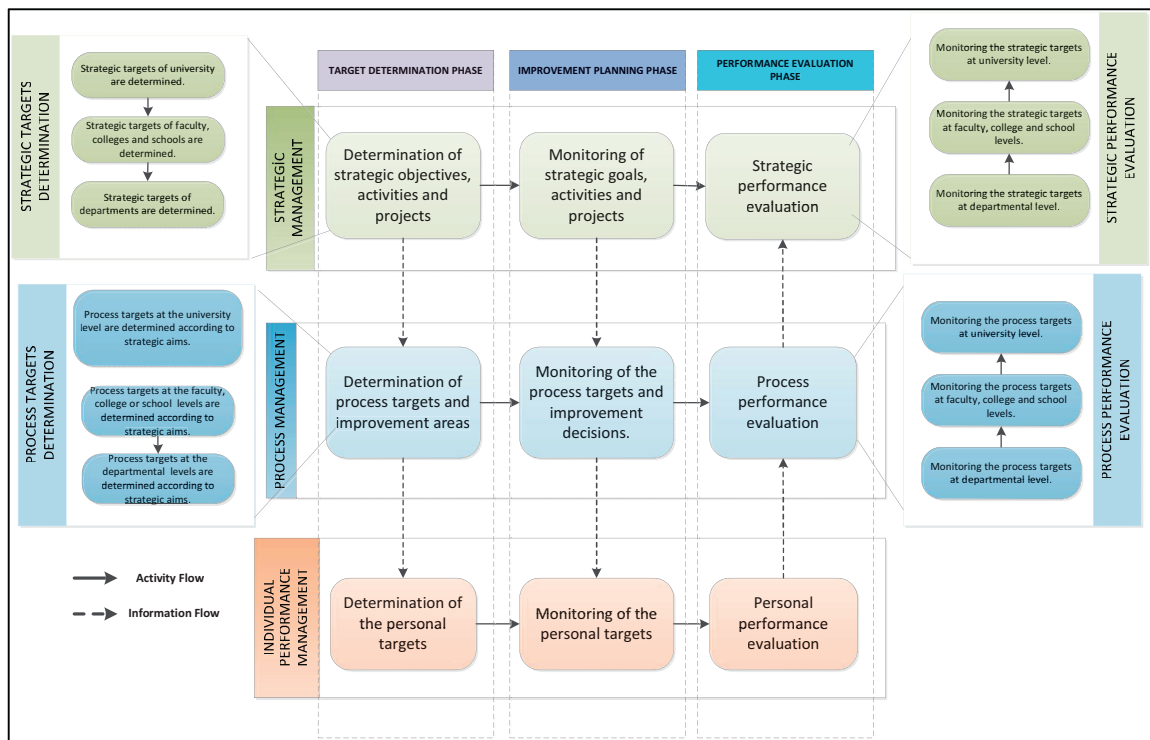


Fig 1. Integrated Enterprise Management (IEM) Model for HEIs.

The Integrated Enterprise Management (IEM) Model has got three dimensions which are strategic management, process management and individual performance management, and three phases such as target determination, improvement and performance evaluation. These phases are executed for the each dimension for the HEIs in interrelated manner. In the other words, after the institutional goals are determined by strategic

management, the necessary mechanisms and tools are implemented by the processes to achieve these strategies. Essentially, the integration of this model is structured into three phases:

- *Target determination phase*: After the targets of the process are derived from the strategic goals, the individual targets are determined according to these process targets.
- *Improvement planning phase*; the individual progress plans are determined from the process improvement plans which are comprised according to the strategic plans.
- *Performance evaluation phase*; the performance evaluation process is executed from by monitoring the performance results of each dimension. For instance, the process results comprise the institutional performance results.

The other integration issue of the model is the performance indicators of the institution. The performance indicators are named in accordance with these integration dimensions such as strategic performance indicators and process performance indicators. While the strategic performance indicators are used for measuring the achievement of the institutional goal, the process performance indicators can be used to monitor the processes which are executed in the institution. Furthermore, the strategic performance indicators consist of the process performance indicators, as shown in Figure 2.

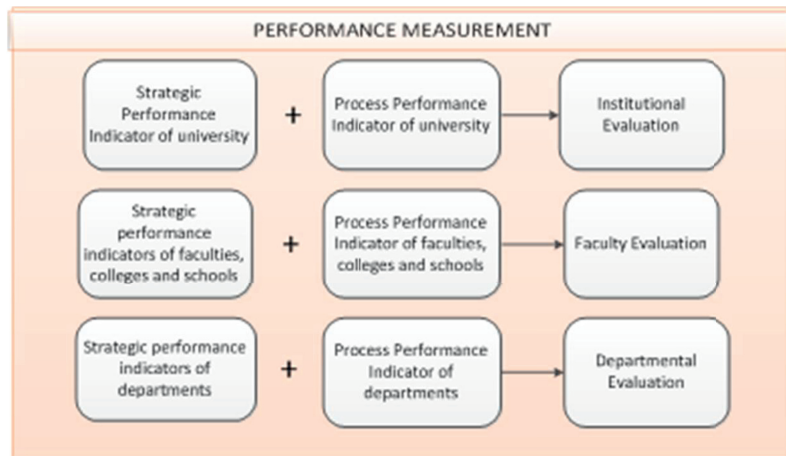


Fig 2. Enterprise Performance Measurement Model.

On the other hand, the HEI has got so many and different kinds of departments, faculties and schools. So each dimension must be executed at the each units of the HEI. This means the huge amount of information which must be obtained, used and evaluated to manage the HEIs effectively. This necessitates that the model must be supported by the management information system for the HEIs, as shown in Figure 3.

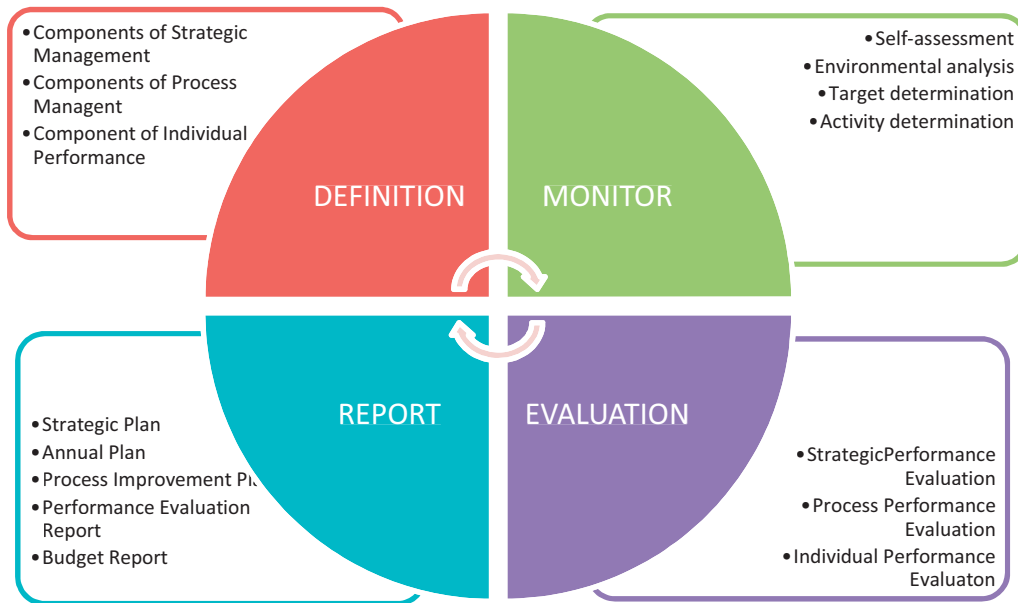


Fig 3. Integrated Enterprise Management System for the HEIs.

Thence the additional dimension is put into the model. This information system consists of four modules such as definition, monitor, evaluation and reports. In the definition part, all component of the system and concepts of the management model are identified by the users. The monitoring part is based on the activities of each dimensions of the IEM Model. The performance results are obtained for each units of the HEI by use of the evaluation part. As final part is for reporting which is suitable for each dimension of the IEM Model.

2.1. The Case Study of Sakarya University

In this section, the proposed model is detailed by using the Sakarya University Case Study. Sakarya University has been implemented the strategic management and process management separately since 2003. The strategic management process of Sakarya University is summarized in Figure 4.

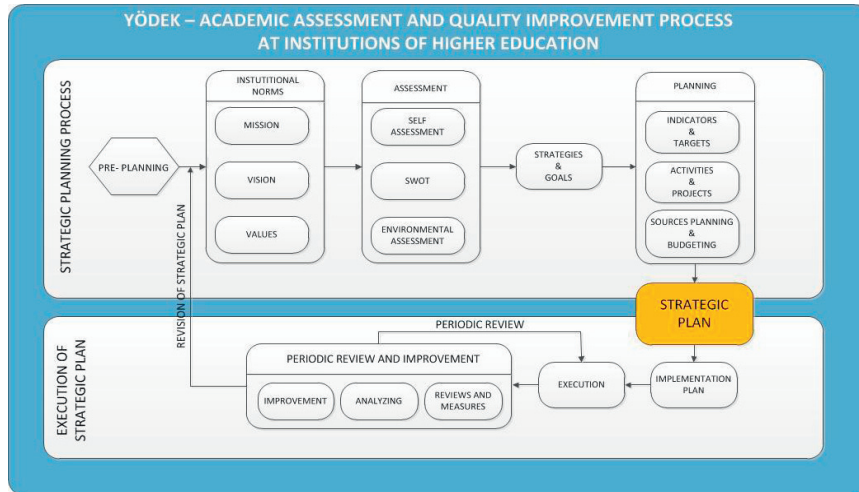


Fig 4. Strategic Management Process of Sakarya University.

Especially the target determination phase of the IEM Model is exemplified by using the values belong to the Sakarya University, as shown in the Table1. Each process targets are determined according to the related strategic objectives. For example, if the institutional objects are to get the higher score in the university rankings, HEI has to increase the number of papers as a process target.

Table 1. Performance Indicators Examples of Sakarya University based on the model.

ENGINEERING FACULTY					
STRATEGIC PERFORMANC INDICATORS					
	2014	2015	2016	2017	2018
Number of accredited programmes	4	5	6	7	8
Rank among the university ranking	54	50	45	40	35
Satisfaction rate of the society	%67	%70	%72	%75	%78
PROCESS PERFORMANCE INDICATORS					
	2014	2015	2016	2017	2018
Ratio of revised courses according to the accreditation criteria	%60	%70	%80	%90	%100
Number of published paper per faculty	1,5	1,8	2	2,2	2,4
Number of activities carried for social benefits	120	150	170	200	220

3. CONCLUSION

The higher education institutions can respond to the changes in its environment, demands of partnerships and developments in the related areas including education, technology, social etc. through strategic management. Strategic management adapts to a rapidly changing environment and provides the strategic themes and objectives for the desired future of the HEIs. On the other hand, the process management provides the necessary mechanisms to achieve the vision of the higher education institutions and disseminate the approaches through the whole enterprise. It is a great challenge to conceptually integrate strategic management and process management in higher education institutions to ensure high quality outcomes.

The main purpose of this study is to develop the model which integrates the strategic management and process management to manage the higher education institutions. Also, the institutional management system which is designed as the information support system to manage the higher education institutions is presented with the case study of Sakarya University.

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